**The Five Vertebrate Classes Worksheet**

Ms. Ottolini, PreAP Biology

***Directions:*** *For each characteristic, place a checkmark in EACH column (vertebrate class) that possesses this characteristic.*

|  |  |  |  |  |  |  |
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| **#** | **Characteristic** | **Fish** | **Amphibians** | **Reptiles** | **Birds** | **Mammals** |
| 1 | Ectothermic (internal temperature is based on environmental temperature ; regulate temperature using behaviors) |  |  |  |  |  |
| 2 | Aquatic larvae and terrestrial adults |  |  |  |  |  |
| 3 | Endothermic (maintain a stable internal temperature by breaking down ATP for energy) |  |  |  |  |  |
| 4 | Have hair and mammary glands |  |  |  |  |  |
| 5 | Primarily aquatic organisms |  |  |  |  |  |
| 6 | Have scales made of keratin |  |  |  |  |  |
| 7 | Require moist environment for reproduction |  |  |  |  |  |
| 8 | Have hollow, light bones |  |  |  |  |  |
| 9 | Contain three main classes – jawless (agnatha), cartilaginous (chondrichthyes), and bony (osteichthyes) |  |  |  |  |  |
| 10 | Have feathers made of keratin, which are derived from reptile scales and are used for protection, insulation, and flight |  |  |  |  |  |
| 11 | Contain three main groups – placental (young develop inside mother’s uterus until very mature), marsupial (give birth to very immature young who finish their development in an external pouch), monotreme (lay eggs) |  |  |  |  |  |
| 12 | First organisms on land (first tetrapods… four limbs!) |  |  |  |  |  |
| 13 | Have amniotic eggs with leathery or hard shell and internal membranes to deliver nutrients, remove waste, and protect the embryo |  |  |  |  |  |
| 14 | Have the largest brain to body size ratio of any of the vertebrate classes |  |  |  |  |  |
| 15 | Use gills throughout entire life for respiration |  |  |  |  |  |
| 16 | First COMPLETELY terrestrial organisms |  |  |  |  |  |